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Socio-Economic Correlates of Illness Behaviour among Pregnant Women in Gboko Local Government Area of Benue State, Nigeria: Implication for Health Promotion

[1]Doowuese Hanior, [2]Chima Charles Igbokwe and *[2]Samuel Ifeanyi Chris Dibia
[1]College of Health technology, Abwa, Benue State
[2]Department of Human Kinetics and Health Education, University of Nigeria, Nsukka
*Correspondence: ifeanyi.dibia@unn.edu.ng; +2348030628874

Abstract

Illness behaviour in pregnancy is a matter of great concern, as it can affect pregnancy outcome, have an adverse effect on pregnant women as it does on other groups of people. The purpose of the study was to determine socioeconomic correlates of illness behaviour of pregnant women in Gboko LGA of Benue State, Nigeria. The correlational research design was used. The population for the study consisted of 5608 pregnant women in Gboko LGA of Benue State at the period of the study. Multistage sampling technique was used to arrive at the sample size of 480 respondents. The researchers-designed questionnaire was used for data collection. Cronbach alpha statistics was used to test the reliability and a reliability coefficient of .84 was established and was considered high enough for use. Criteria mean point was used to determine illness behaviours. Pearson product-moment correlation was used to answer research questions while linear regression analysis was used to test the null hypotheses at .05 level of significance and appropriate degrees of freedom. Result showed that there was: no relationship between level of education (r= -.009; p=.848); very low mean correlation between occupation (r= -.042; p= .369); and very low relationship between income (r= -.087; p= .063) of pregnant women in Gboko LGA and their illness behaviours. However, there were significant relationships between level of education (F = .072, P= .789 > .05), occupation (F = 2.047, P= .153 > .05), and family income (F = 3.226, P= .073 > .05) and the illness behaviours of pregnant women in Gboko LGA. The study recommended that health professionals should educate pregnant women on the importance of antenatal care to improve the health of childbearing mothers and to be enlightened on what to do when they face some pregnant related illnesses.

Keywords: Illness Behaviour, Socioeconomic, Correlates, Pregnant Women, Gboko LGA

Introduction

Illness behaviour in pregnancy is a matter of great concern, as it can affect pregnancy outcome, have an adverse effect on pregnant women as it does on other groups of people. International Centre for Research on Women (2013) estimated that 290,000 women die each year from pregnancy-related causes and nearly all these deaths occur in the developing world. According to the World Health Organization-WHO (2015), approximately 830 pregnant women die every day due to complications from the illness. It was estimated that 59,000 maternal deaths occurred in Nigeria in 2005 and the maternal mortality ratio (MMR) was 1,100 deaths per 100,000 live births giving a lifetime risk of maternal death of 1 and 18 (WHO, 2009).

Illness behaviour is a term used to describe what people do when they are ill. The term illness behaviour was introduced by Mechanic and Volkart to describe the individuals' different ways to respond to their own health (Sirri & Grandi, 2012). This micro-sociological conceptualization of illness behaviour has been modified and broadened over the past 50 years to include economic, cultural, psychosocial, structural, demographic, geographic and organizational factors that influence the reaction of the individual to illness, both chronic and acute (Fava, Sonino, & Wise, 2012). The concept has grown to encompass both macrosocial and microsocial aspects of health-seeking (or illness-avoidance) behaviour. Illness behaviour in this study refers to the ways pregnant women in Gboko LGA perceive and respond to signs and symptoms of illness and the necessary actions were taken by individuals who feel sick to relieve themselves of the illness experience to get well.

Illness behaviour has been classified into different stages. Suchman (2005) highlighted five stages of illness behaviour: symptoms experience stage, assumption of sick role stage, medical care contact stage, stage of a dependent patient role, and stage of recovery and rehabilitation. Illness behaviour now becomes a matter of concern among pregnant women. Castenada (2013) asserted that illness behaviour in pregnancy is often associated with psychological feeling which the woman exhibit to get attention from the husband and relatives as a result of the discomfort she is experiencing due to pregnancy.

Pregnancy is a normal process, but it may be associated with complications, which may occur as a result of hormonal and physiological changes in the body. These changes in the woman's body are not confined to the reproductive organs only. Every tissue and organs react to the stimulus of the pregnancy metabolic processes. More so, emotional, chemical and hormonal balances are also affected. Good care and supervision are therefore needed by all pregnant women. By and large, pregnancy is associated with minor illness due to physiological and hormonal changes, referred to as pregnancy-related illness in this paper.

Pregnancy-related illnesses are complaints that are associated with pregnancy. Centre for Disease Control and Prevention (2003) defined pregnancy-related illnesses as any physical, psychological condition resulting from pregnancy that hurts the woman's health. The author further identified two types of pregnancy-related illnesses to include problems that are caused by pregnancy such as constipation, heartburn, early morning vomiting or morning sickness, hyperemesis gravidarum, among others and existing illnesses which anybody can suffer but they are made worse in pregnancy. These include varicose veins, backache, and waist pain. This study focused on minor pregnancy-related illnesses such as nausea and vomiting, hyperemesis gravidarum, varicose veins, backache, excessive salivation, heartburn, waist pain, and constipation.

Nausea and vomiting in pregnancy commonly known as morning sickness are self-limiting conditions that may be controlled with conservative measures. Nausea and vomiting of pregnancy often develop by five or six weeks of pregnancy (Committee on Practice Bulletins-Obstetrics, 2018). However, the author further averred that symptoms continue until the third trimester in 15 to 20 per cent of women and until delivery in five per cent of women. Interestingly, women with mild nausea and vomiting during pregnancy experience fewer miscarriages and stillbirths than women without these symptoms (Hinkle et al. 2016). A profound form of nausea and vomiting leads to hypermesis gravidarum.

Hyperemesis gravidarum is the most severe form of nausea and vomiting in pregnancy, characterized by persistent nausea and vomiting associated with ketosis and weight loss (>5% of prepregnancy weight) (Ogunyemi, 2017). Malnutrition and other serious complication such as volume depletion, electrolyte and acid-base imbalances, nutritional deficiencies, and even death can result from this condition. Initial management should be conservative and may include reassurance, dietary recommendations, and support.

Pregnancy itself is one of the major risk factors of varicose vein. Varicose veins during pregnancy event limited to the woman's legs can also occur at the vulva. They can be small and barely noticeable or they can be quite large and somewhat disfiguring. The vulva can feel sore and swollen, and it can be uncomfortable to sit (National Institute for Health and Care Excellence, 2013).

Pregnancy is a time of many physical changes. These changes also impact the spine, joints and muscles and can result in mild to severe back and low back pain in pregnancy. Backache is a threat to the pregnancy. Usman, Abubakar, Muhammad, Rabiu and Garba (2017) pointed out that as the baby grows heavier and a woman's balance changes, her low back is put under increasing strain. The authors explained that during pregnancy, the pregnancy hormones especially progesterone softens the ligament and fibrous tissue that normally hold the spine and pelvic joints firmly together. Excessive sitting and bad postures increase the strain and make the pain worse. Gentle exercises and massage can alleviate the pains.

Excessive salivation (ptyalism) is a symptom of pregnancy. It occurs frequently in women who are suffering from nausea or morning sickness and seems to occur most often during the first 12 weeks of pregnancy. Pando (2011) opined that ptyalism represents the inability of the nauseated women to swallow a normal amount of saliva rather than a true increase in the production of saliva.

Heartburn also called acid indigestion is an irritation or burning sensation of the oesophagus caused by stomach contents that reflux (come as backup) from the stomach. Heartburn is common in pregnancy and tends to become more so as the pregnancy progresses. The best way to abate heartburn is by prevention such as avoiding carbonated drinks, alcohol, caffeine, eating small meals, drinking plenty water, chewing gum after eating and avoiding smoking and environmental tobacco smoke (BabyCentre Staff, 2017).

Constipation is a common problem during pregnancy, which is generally described as infrequent bowel movements or difficult evacuation. Pregnancy predisposes women to develop constipation owing to physiologic and anatomic changes in the gastrointestinal tract (Trottier, Erebara, & Bozzo, 2012). They added that there is increased water absorption from the intestine which causes stool to dry out, decreased maternal activity and increased vitamin supplementation of iron and calcium can further contribute to constipation.

All things being equal, every ill person desires to get well. This determines the health-seeking behaviour of pregnant women depending on the available health facilities and health access in terms of cost and logistics. Pregnant women who experience the above illnesses may turn to medical care services for help, others may go for traditional healing, and others may turn to self-help strategies; while others may decide to dismiss the symptoms.

These illness decisions may be a mixture of behavioural decisions. Earlier studies indicate that a range of other factors- such as relatively low socioeconomic status of women, cultural beliefs and practices, and perception of the cause of the illness may contribute to abnormal illness behaviour (Abubakar, Van Baar, Fischer, Bomu, Gona, & Newton, 2013).

Gboko LGA is not an exception since culture encourages them to patronize traditional healing and visit the hospital only when the situation has become worse. The normal health-seeking behaviour by pregnant women is to turn to the medical care system for help. It may be in realization of this that Usman et al. (2017) reported that good antenatal care is necessary during pregnancy to ensure that both the mother and the foetus are safe and healthy. Pregnant women are therefore advised to seek adequate antenatal care in the antenatal clinic during pregnancy irrespective of their socioeconomic status.

Socio-economic status of a mother can influence her illness behaviour. Socioeconomic status is one of the most widely studied constructs in educational and social sciences research. Mase (2017) defined socioeconomic factors as social and economic experiences and realities that help mould one's personality, attitude and lifestyle and listed them as: education, income, occupation, place of residence, environment, culture/ethnicity and religion. Park (2011) pointed out that socio-economic status is reflected by the level of education, per capita income, family size, and population growth of the nation inter alia. For a better appreciation of illness behaviours of pregnant women, there is a need to understand socioeconomic factors affecting them. In this study, the socio-economic status of the pregnant women will be used to understand the relationships between their illness behaviour. Level of education, occupation and family income were considered.

Level of education refers to the highest level of education that an individual has completed. Illness behaviours could also be perceived differently based on the level of education of pregnant women. Level of education in the context of this study refers to the highest educational level attained by pregnant women. Level of education will be classified into no formal education, primary education, secondary education, and tertiary education. The researchers are not clear on the relationship between the level of education and illness behaviours of the pregnant women and wish to ascertain if, and possibly how, level of education influences their illness behaviours. The level of education of women can go a long way to determine their illness behaviour in pregnancy as educated women may have better chances of gaining employment and good salaries, thereby increasing the family income (Mase, 2017).

Family income level is another suspected factor that is capable of shaping the illness behaviours of pregnant women. Family income is generally considered a primary measure of nations' financial prosperity. Business Dictionary (2018) defined family income as the total compensation received by all family members age 15 or older living in the same household. Compensation may include wages/salaries, social security, child support, retirement benefits, and dividends. During gestation, pregnant women depend more on the family income to settle their bills as some tend to stop work. This implicates the need for this study to determine the relationships between family income and illness behaviours of pregnant women. Family income was measured using the salary and wages earned per month by the pregnant women and their spouses. Family income is directly linked to occupational status.

Occupation can increase women's health status because it raises awareness and provides new ideas, behaviours and opportunities through interactions with other people outside the home and community. More so, some occupations allow pregnant women to attend antenatal care services, where they gain more insights on how to take care of pregnancy-related illnesses.

Correlate means something that leads to another thing or something that influences each other or has a mutual relationship or connection in which one thing affects or depends on another. According to Harper-Collins (2012), correlates refer to when one thing is associated with another or the two things are closely connected. However, in this study correlates are used as factors that influence or have a relationship with illness behaviour of pregnant women in Gboko Local Government Area of Benue State.

This study was anchored on the health belief model and theory of reasoned action. Health belief model (HBM) was developed by Rosenstock and Kege in the year 1950 in an attempt to explain and predict health behaviour via its four components namely: perceived susceptibility, perceived severity, perceived benefits and perceived barriers. Recently HBM has been expanded to include cues to action, motivating factors and self-efficacy. This model explains how the attitude of pregnant women affects their behaviours when they are confronted by pregnancy-related illnesses. Theory of reasoned action shows how attitude affects behaviours. Ajzen and Martin Fishbein propounded the theory of reason action (TRA) in 1967. It states that a person's attitude towards a particular behaviour is influenced by belief outcome of the behaviour, subjective norms and perceived

behavioural control. In essence, pregnant women who develop an attitude of not using antenatal care services are more likely to be prone to pregnancy-related illness.

Gboko Local Government Area is one of the 23 local government areas in Benue state. It is bounded with Tarka LGA in the North, Buruku LGA in the East, Gwer East and Konshisha LGA in the West, and Ushongo LGA in the South. The major ethnic group in the LGA is the Tiv. However, smaller tribes such as Etulo, Hausa, Ibo, Yoruba and Igalas are found in Gboko town. It is mostly characterized by rural dwellers with the majority of them being farmers and traders with few civil servants. The area is characterized by polygamous marriage, male dominance among couples and early marriage. They are multiparous with the view of giving birth to many children who would help them in their farms. They also have a high value on traditional medicine that could be dangerous and may harm the growing foetus.

Pregnant women in Gboko LGA who suffer from pregnancy-related illnesses seem not to exhibit normal illness behaviours. For example, a pregnant woman in Gboko LGA who is ill, instead of going to health care professionals for help may go for traditional healing which is abnormal. Gboko LGA is characterized by some socio-cultural practices with poor socio-economic background, high illiteracy level which affect the pregnant women. Traditionally, early marriages, lack of basic and qualitative education of women, male preference, love of children, male dominance among couples are the order of the day. These practices have a severe effect on pregnant mothers. Some health facilities in the LGA are not evenly distributed and close to people's houses. Pregnant women do not seek medical advice from the appropriate source because of their belief that traditional healing is the most effective and cheaper. The health of pregnant women is at risk because of these beliefs. These problems underscore the need for the choice of the area of the present study.

The purpose of this study was therefore to determine socioeconomic correlates of illness behaviour among pregnant women in Gboko Local Government Area of Benue State. Specifically, the study seeks to determine the relationship between the level of education; occupation; and family income; and illness behaviours of pregnant women in Gboko LGA.

Research Questions

The following research questions were posed to guide the study:
1. What is the relationship between level of education and illness behaviour of pregnant women?
2. What is the relationship between occupation and illness behaviour of pregnant women?
3. What is the relationship between level of income and illness behaviours of pregnant women?

Hypotheses

The following null hypotheses were postulated and tested at .05 level of significance.
1. There is no significant relationship between level of education and illness behaviours of pregnant women in Gboko LGA.
2. There is no significant relationship between occupation and illness behaviours of pregnant women in Gboko LGA.
3. There is no significant relationship between level of income and illness behaviour of pregnant women accessing antenatal in Gboko LGA.

Methods

Area of the study.

Gboko Local Government Area is one of the 23 local government areas in Benue state. It is bounded with Tarka LGA in the North, Buruku LGA in the East, Gwer East and Konshisha LGA in the West, and Ushongo LGA in the South. The major ethnic group in the LGA is the Tiv. However, smaller tribes such as Etulo, Hausa, Ibo, Yoruba and Igalas are found in Gboko town. It is mostly characterized by rural dwellers with a majority of them being farmers and traders with few civil servants. The area is characterized by polygamous marriage, male dominance among couples and early marriage. They are multiparous with the view of giving birth to many children who would help them in their farms. They also have a high value on traditional medicine that could be dangerous and may have an adverse effect on the growing foetus.

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Research design.

The correlational research design was used to determine socioeconomic correlates of illness behaviour among pregnant women in Gboko Local Government Area, Benue State.

Study population.

The population for the study consisted of all pregnant women attending antenatal clinic in the 42 health facilities in Gboko LGA of Benue State, estimated at 5608 pregnant women registered for antenatal clinic between July 2016 to June 2017.

Sample and sampling technique.

The sample consisted of 480 pregnant mothers accessing antenatal care in Gboko LGA. This is in line with the suggestions of Cohen, Manion, and Morrison (2011), that when population size is 5,000 or above at 95% confidence level (5% interval), the sample size should be 357 or above.

The sample was drawn from using a multistage sampling procedure. The first stage involved stratification of Gboko LGA into urban and rural areas. Gboko LGA has seventeen council wards (four council wards in the urban and thirteen council wards in rural communities). The second stage involved simple random sampling to select eight rural wards and the four urban wards. Stage three involved selecting two health facilities each from the twelve sampled wards (4 Urban and 8 Rural) using purposive sampling. The inclusion criteria include the number of attendees and consent from the hospitals. This yielded 24 health facilities. Stage four employed the use of a systematic sampling technique to select twenty pregnant women accessing antenatal clinics in the sampled facilities (20 pregnant women x 24 health facilities = 480 respondents).

Instrument for data collection.

The instrument for data collection was a 27-item questionnaire titled 'Socioeconomic Correlates of Illness Behaviour of Pregnant Women Questionnaire (SCIBOPWQ)' structured by the researchers. The face validity of the questionnaire was established through the judgment of five experts from the Department of Human Kinetics and Health Education, University of Nigeria, Nsukka. The reliability of the instrument was established using Cronbach alpha statistics which yielded a coefficient of .84.

Data collection procedure.

A total of 480 copies of the questionnaire were administered by hand and collected back on the spot by the researchers. This approach yielded a high return rate of 100 per cent of the instrument. However, Out of the 480 copies, only 460 (95.8%) were duly completed and were used for the data analysis.

Data analysis procedure.

Data were coded and analyzed using IBM-SPSS version 22. A four-point Likert-type rating scale (Always, Sometimes, Occasionally and Never) was used. Data were analyzed using Pearson Product Moment Correlation (PPMC) to answer the research questions. Wilson (1989) criteria for interpreting correlation coefficient index were used to determine the extent of relationships. Correlation coefficient index < 0 = negative relationship 0-.009 = No relationship (NR); .01 – 19 = very low relationship (VLR); 20 -.39 = low relationship (LR); .40-.69 = moderate relationship (MR); .70 –.89 =high relationship (HR); .90 -.99 = very high relationship (VHR). The null hypotheses were tested using linear regression at .05 level of significance at appropriate degrees of freedom.

Results

Table 1

Pearson Correlation between Level of Education and Illness Behaviours of Pregnant Women in Gboko LGA (n=460)

S/n	Item	Pearson value	Std Error	p-value
	Symptom Experience Stage			
1	Feeling like vomiting (nausea)	.064	.048	.173
2	Feeling waist pains	.062	.046	.186
3	Feeling sleepy during pregnancy especially in the morning	-.008	.048	.862
4	Vomiting frequently during pregnancy	.085	.047	.070
5	Experiencing leg pains in pregnancy (varicose veins)	-.110	.045	.018*
	Cluster average	**.003**	**.044**	**.943**
	Assumption of Sick Role Stage: As a pregnant woman:			
6	I consult friends, neighbours, associates and family members for advice when ill	.005	.044	.917

7	I go to work when am ill	-.048	.045	.306
8	I cope with illness by lying down	-.030	.046	.515
9	I still perform my household chores when am ill	-.029	.053	.531
	Cluster average	**-.046**	**.047**	**.329**
	Medical Care Contact Stage: As a pregnant woman:			
10	I seek medical help when am ill	.015	.048	.752
11	I avoid seeking medical help when am ill	.094	.047	.045*
12	I go to hospital/health centre for help when am ill	-.042	.046	.367
13	I go to spiritualists for help when am ill	.027	.043	.562
14	I take herbs when am ill	.102	.043	.029*
15	I go to patent medicine dealers for help when am ill	-.079	.048	.090
	Cluster average	**.056**	**.041**	**.235**
	Dependent Patients Role Stage: As a pregnant woman:			
16	I comply with the prescribed dosage of drugs given to me when am ill	.028	.048	.553
17	I reject the choice of treatment given to me by the doctor when am ill	.056	.046	.230
18	I complete the dosage of drugs therapy given by the doctor when am ill	.006	.048	.893
19	I persuade the health professionals to follow the choice of treatment	-.145	.041	.002*
20	I find it difficult to complete my prescribed dosage of drugs	.089	.047	.055
	Cluster average	**.021**	**.046**	**.646**
	Recovery and Rehabilitation Stage			
21	I refuse to agree that I am healed even when being told by a doctor	-.012	.049	.801
22	I refuse to resume normal role obligations and task when am healed	-.170	.047	.000*
23	I follow the instructions given to me by health professionals when am ill	-.045	.049	.331
24	I comply with follow up visit as advised by health professionals during pregnancy	-.170	.044	.000*
	Cluster average	**-.188**	**.046**	**.000***
	Grand Average	**-.009**	**.043**	**.848**

Key: *Significant *p < 0.05*
Correlation coefficient index < 0 = negative relationship   0 -.009 = No relationship (NR); .01 – 19 = very low relationship (VLR); 20 -.39 = low relationship (LR); .40-.69 = moderate relationship (MR); .70 –.89 =high relationship (HR); .90 -.99 = very high relationship (VHR).

Results of the Pearson correlation in Table 1 indicate that there was no relationship between level of education and mean responses of pregnant women regarding their illness behaviours (r = .009, p = .848). The Table also shows that the mean illness behaviours at recovery and rehabilitation stage (r = -.188; p = .000) were low and significant at .05 level of significance.

Table 2
Relationship between Occupation and Illness Behaviours of Pregnant Women in Gboko LGA (n=460)

S/n	Item	Pearson value	Std Error	p-value
	Symptom Experience Stage			
1	Feeling like vomiting (nausea)	.028	.047	.550
2	Feeling waist pains	-.009	.046	.856
3	Feeling sleepy during pregnancy especially in the morning	-.112	.042	.016*
4	Vomiting frequently during pregnancy	-.116	.038	.013*
5	Experiencing leg pains in pregnancy (varicose veins)	-.044	.039	.350
	Cluster average	**-.097**	**.040**	**.037***
	Assumption of Sick Role Stage: As a pregnant woman:			
6	I consult friends, neighbours, associates and family members for advice when ill	.109	.047	.019*
7	I go to work when am ill	.011	.043	.815
8	I cope with illness by lying down	-.062	.046	.186

9	I still perform my household chores when am ill	-.124	.048	.008*
	Cluster average	**-.016**	**.048**	**.733**
	Medical Care Contact Stage: As a pregnant woman:			
10	I seek medical help when am ill	-103	.044	.028*
11	I avoid seeking medical help when am ill	-.128	.042	.006*
12	I go to hospital/health centre for help when am ill	.001	.048	.986
13	I go to spiritualists for help when am ill	-.014	.041	.763
14	I take herbs when am ill	-.016	.045	.729
15	I go to patent medicine dealers for help when am ill	.025	.046	.597
	Cluster average	**-.019**	**.041**	**.687**
	Dependent Patients Role Stage: As a pregnant woman:			
16	I comply with the prescribed dosage of drugs given to me when am ill	-.043	.045	.355
17	I reject the choice of treatment given to me by the doctor when am ill	.011	.046	821
18	I complete the dosage of drug therapy given by the doctor when am ill	-.052	.045	.262
19	I persuade the health professionals to follow the choice of treatment during pregnancy	-.094	.041	.045*
20	I find it difficult to complete my prescribed dosage of drugs	-.113	.048	.015*
	Cluster average	**-.153**	**.046**	**.001***
	Recovery and Rehabilitation Stage			
21	I refuse to agree that I am healed even when being told by a doctor	.035	.045	.548
22	I refuse to resume normal role obligations and task when am healed	.042	.046	.372
23	I follow the instructions given to me by health professionals when am ill	.003	.051	.953
24	I comply with follow up visit as advised by health professionals during pregnancy	.026	.042	.575
	Cluster average	**.046**	**.044**	**.320**
	Grand Average	**.042**	**.044**	**.369**

Key *Significant *p < 0.05*
Correlation coefficient index < 0 = negative relationship   0 -.009 = No relationship (NR);.01 – 19 = very low relationship (VLR); 20 -.39 = low relationship (LR);.40-.69 = moderate relationship (MR); .70 –.89 =high relationship (HR);.90 -.99 = very high relationship (VHR).

Results of the Pearson correlation in Table 2 indicate that there was a very low relationship between occupation and mean responses of pregnant women regarding their illness behaviours (r = .042; p=.369). The Table also shows that the mean illness behaviours at symptom experience stage (r = -.097; p=.037), and dependent patients role stage (r = -.153; p = .001) were significant at.05 level of significance.

Table 3
Relationship between Income and Illness Behaviours of Pregnant Women in Gboko LGA (n=460)

	Item	Pearson value	Std Error	p-value
	Symptom Experience Stage			
1	Feeling like vomiting (nausea)	.020	047	.674
2	Feeling waist pains	-.109	046	.020*
3	Feeling sleepy during pregnancy especially in the morning	-.156	046	.001*
4	Vomiting frequently during pregnancy	-.084	047	.072
5	Experiencing leg pains in pregnancy (varicose veins)	.113	044	.015*
	Cluster average	**-.100**	**046**	**.032***
	Assumption of the Sick Role Stage: As a pregnant woman:			
6	I consult friends, neighbours, associates and family members for advice when ill	-.019	047	.688
7	I go to work when am ill	.036	047	.436
8	I cope with illness by lying down	.068	046	.146

9	I still perform my household chores when am ill	.067	047	.151
	Cluster average	**.065**	**046**	**.165**
	Medical Care Contact Stage: As a pregnant woman:			
10	I seek medical help when am ill	-.034	047	.472
11	I avoid seeking medical help when am ill	.121	047	.009*
12	I go to hospital/health centre for help when am ill	-.133	047	.004*
13	I go to spiritualists for help when am ill	.157	043	.001*
14	I take herbs when am ill	.224	044	.000*
15	I go to patent medicine dealers for help when am ill	-.019	047	.681
	Cluster average	**.130**	**043**	**.005***
	Dependent Patients Role Stage: As a pregnant woman:			
16	I comply with the prescribed dosage of drugs given to me when am ill	-.128	045	.006*
17	I reject the choice of treatment given to me by the doctor when am ill	.161	045	.001*
18	I complete the dosage of drugs therapy given by the doctor when am ill	-.119	046	.011*
19	I persuade the health professionals to follow the choice of treatment during pregnancy	-.117	044	.000*
20	I find it difficult to complete my prescribed dosage of drugs	-.041	047	.382
	Cluster average	**-.133**	**044**	**.004***
	Recovery and Rehabilitation Stage			
21	I refuse to agree that I am healed even when being told by a doctor	.102	047	.028*
22	I refuse to resume normal role obligations and task when am healed	-.056	047	.234
23	I follow the instructions given to me by health professionals when am ill	-.223	042	.000*
24	I comply with follow up visit as advised by health professionals during pregnancy	-.285	041	.000*
	Cluster average	**-.222**	**042**	**.000***
	Grand Average	**-.087**	**.045**	**.063**

Key *Significant   *p < 0.05*
Correlation coefficient index < 0 = negative relationship   0 -.009 = No relationship (NR);.01 – 19 = very low relationship (VLR); 20 -.39 = low relationship (LR);.40-.69 = moderate relationship (MR); .70 –.89 =high relationship (HR);.90 -.99 = very high relationship (VHR).

Results of the Pearson correlation in Table 3 indicate that there was a very low relationship between family income and mean responses of pregnant women regarding their illness behaviours (r = -.087, p = .063). The Table also shows that the mean illness behaviours at symptom experience stage (r = -.100; p = .032), medical care contact stage (r = -.130; p = .005), dependent patients role stage (r = -.117; p = .000), and recovery and rehabilitation stage (r = -.222; p = .000) were significant at.05 level of significance.

Table 4
Summary of Linear Regression Table for Relationship between Level of Education and Illness Behaviours of Pregnant Women in Gboko LGA (n= 460)

Computed R	R Square	Adjusted R Square	Standard Error	Beta	F. Val	P. Val
.013	.000	-.002	.251	-.013	.072	.789

P > 0.05

Table 4 shows that the computed R-value is.013. This is moderate. It indicates that there is a moderate relationship between the level of education and the illness behaviours of pregnant women. The R square of.000 shows that the relationship has no predictive value (0.0). The calculated F-value with the corresponding P-value on illness behaviours of pregnant women is (F=.072, P=.789 >.05). The P-value is greater than .05 level significance. The adjusted R square value of -.002 and the value of standard error estimate (.251) further revealed that there was no relationship between the educational level and illness behaviours of pregnant women. Therefore, the null hypothesis, which stated that there is no significant relationship between level of education and illness

behaviours of pregnant women in Gboko LGA was accepted. This implies that there is no significant relationship between educational level and the illness behaviours of pregnant women in Gboko LGA.

Table 5
Summary of Linear Regression Table for Relationship between Occupation and Illness Behaviours of Pregnant Women in Gboko LGA (n= 460)

Computed R	R Square	Adjusted R Square	Standard Error	Beta	F. Val	P. Val
.067	.004	.002	.250	-.067	2.047	.153

P > 0.05

Table 5 shows that the computed R-value is.067. This is moderate. It indicates that there is a moderate relationship between occupation and illness behaviours of pregnant women. The R square of.004 shows that the relationship has a very low predictive value (0.04%). The calculated F-value with the corresponding P-value on illness behaviours of pregnant women is (F=2.047, P=.153 >.05). The P-value is greater than.05 level significance. The adjusted R square value of .002 and the value of standard error estimate (.250) further revealed that there was only a moderate relationship between the occupation and illness behaviours of pregnant women. Therefore, the null hypothesis, which stated that there is no significant relationship between occupation and illness behaviours of pregnant women in Gboko LGA was accepted. This implies that there is no significant relationship between occupation and the illness behaviours of pregnant women in Gboko LGA.

Table 6
Linear Regression Table for Relationship between Level of Income and Illness Behaviours of Pregnant Women in Gboko LGA (n= 460)

Computed R	R Square	Adjusted R Square	Standard Error	Beta	F. Val	P. Val
.048	.007	.005	.250	-.084	3.226	.073

P > 0.05

Table 6 shows that the computed R-value is.048. This is moderate. It indicates that there is a moderate relationship between the level of income and the illness behaviours of pregnant women accessing ANC services. The R square of.005 shows that the relationship has a very low predictive value (00.5%). The calculated F-value with the corresponding P-value on illness behaviours of pregnant women is (F=3.226, P=.073 >.05). The P-value is greater than.05 level significance. The adjusted R square value of -.005 and the value of standard error estimate (.250) further revealed that there was only a moderate relationship between the level of income and illness behaviours of pregnant women. Therefore, the null hypothesis, which stated that there is no significant relationship between level of income and illness behaviours of pregnant women in Gboko LGA was accepted. This implies that there is no significant relationship between the level of income and the illness behaviours of pregnant women in Gboko LGA.

Discussion
The findings in Table 1 showed a low relationship between level of education of pregnant women and their illness behaviours. This is surprising because the researchers expected educated pregnant women to behave markedly from the uneducated women. The finding is in line with Usman et al. (2017) who found that mothers who are educated used modern health care services more than the less educated mothers. Also, mothers whose husbands were educated used the services more than those whose husbands were less educated. This finding could be attributed to the fact that most educated women in Gboko patronize private clinics. The findings in table 4 indicated a moderate relationship between level of education and illness behaviours of pregnant women in Gboko LGA. The implication of this finding to public health workers is to collaborate with policymakers to establish adult education classes for illiterate mothers to upgrade their knowledge and understanding to promote their health through normal illness behaviours.

Result in Table 2 shows a very low relationship between occupation and illness behaviours of pregnant women in Gboko LGA. The table shows that the mean illness behaviours at the symptom experience stage and dependent patients' role stage were significant. This finding is in line with Fava et al. (2012) who found out that there is a significant relationship between occupation and the choice of health services. The findings in table 5

revealed a moderate relationship between occupation and illness behaviours of pregnant women implying that occupation cannot be used to predict illness behaviour of pregnant women. The implication for this finding is that women should be given job opportunities to enhance their service utilization level and improve their illness behaviours. Also, provisions should be made through enacting policies and legislation to protect pregnant women from harsh working conditions in their workplaces.

The findings in table 3 revealed that there was a very low relationship between the level of income and illness behaviours of pregnant women. This was expected because Abubakar et al. (2013) revealed that culture, belief systems and other factors affect pregnant women and their health-seeking behaviour. However, against the position of the researchers, Health promotion International (2001) found out that the woman's background characteristics, household income and access to health care are some of the enabling factors that contribute to maternal service use. This contributes to positive illness behaviours of pregnant women. Gboko LGA being a poverty-ridden area is prone to abnormal illness behaviours of pregnant women because even when they are ill, they find it difficult to access health care due to poverty. The finding in table 6 revealed a moderate relationship between level of income and illness behaviours of pregnant women, implying that income level can be used to predict illness behaviours of pregnant women. This finding implies that women should be empowered economically to ensure affordability to health services. Also, preferential care should be directed to pregnant women, especially those in their last trimester.

Implications to Health Promotion

Normal illness behaviour is among the health promotional activities in pregnancy. Illness behaviour in pregnancy is a matter of great concern, as it can affect pregnancy outcomes, has an adverse effect on both the pregnant women and other groups of people. Illness behaviour in pregnancy can result in death and other profound complications if not well managed. Abnormal illness behaviours at every stage can mar or make the pregnancy outcome. Thus, there is a need for a concerted effort towards promoting normal illness behaviours among pregnant women, especially those in rural areas such as Gboko LGA.

Education, awareness campaigns, advocacy, policymaking, women empowerment, sanitizing the health sector and improving the working standards and attitude of health care workers in the hospitals, obliterating harmful cultural belief systems that hamper normal illness behaviours among pregnant women among others should be used as vehicles of change. Health promotion activities are lacking in Gboko LGA. This is not acceptable as health promotional activities and programmes are health rights for all women to improve and promote their health. Therefore, health promotional programmes should be mounted for pregnant women in Gboko LGA to encourage them on the need to seek medical care first, whenever they are confronted with pregnancy-related illnesses.

Conclusions and Recommendations

The study concludes that there was no significant relationship between the socioeconomic correlates (level of education, occupation and income) of pregnant women in Gboko LGA and their illness behaviours. Based on the findings, discussions and conclusions of the study, the following recommendations were made;

1. Health professionals (health educators, doctors, nurses, community health workers, midwives) should health educate pregnant women on the importance of preconception care, antenatal care, and postnatal care to improve the health of childbearing mothers. To promote the health of women of reproductive age before conception and thereby improve pregnancy-related outcomes.
2. Government agencies in collaboration with non-governmental organizations should strengthen their outreach and community-based programmes to sensitize the women of all ages on the necessity of attending ANC during pregnancy.

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